

Serial No.: 10/708,404
Confirmation No.: 2403
Applicant: HENNE, Preston A. *et al.*
Atty. Ref.: 03130.0004.CPUS02

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method for reducing the effects of a sonic boom created by an aerospace vehicle when said vehicle is flown at supersonic speed, comprising the steps of:

providing said aerospace vehicle with a first spike extending from the nose thereof substantially in the direction of normal flight of said aerospace vehicle, said first spike having a leading end portion tapering to a predetermined cross-section, a first section having a first cross-sectional area, and a first transition region between said predetermined cross-section and said first section and wherein each of successive cross-sectional areas of said first spike taken along said first spike from said leading end portion to said vehicle is at least equal to any cross-sectional area of said first spike located ahead thereof; and

configuring said first transition region so as to reduce the coalescence of shock waves produced by said first spike during normal supersonic flight of said aerospace vehicle.

2. (Original) The method of claim 1 wherein said leading end portion tapers toward a point.

3. (Original) The method of claim 1 wherein said step of configuring said first transition region comprises locating said first transition region in a predetermined location relative to said fuselage.

4. (Original) The method of claim 1 wherein said step of configuring said first transition region comprises shaping said first transition region with a predetermined contour.

5. (Original) The method of claim 1 further comprising the step of providing said aerospace vehicle with a second spike extending from the rear thereof substantially opposite the direction of normal flight of said aerospace vehicle.

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6. (Currently Amended) A method for reducing the effects of a sonic boom created by an aerospace vehicle when said vehicle is flown at supersonic speed, comprising the steps of:

providing said aerospace vehicle with a spike extending from the tail thereof substantially opposite the direction of normal flight of said aerospace vehicle, said spike having a leading trailing end portion tapering to a predetermined cross-section, a first section having a first cross-sectional area, and a first transition region between said predetermined cross-section and said first section and wherein each of successive cross-sectional areas of said first spike taken along said first spike from said trailing end portion to said vehicle is at least equal to any cross-sectional area of said first spike located therebehind; and

configuring said first transition region so as to reduce the coalescence of shock waves produced by said spike during normal supersonic flight of said aerospace vehicle.

7. (New) The method of claim 1 wherein a plurality of cross-sectional areas of said first spike, from said leading end portion to said vehicle, are greater than any cross-sectional area of said first spike located ahead thereof.

8. (New) The method of claim 1 wherein at least some of said successive cross-sectional areas of said first spike, from said leading end portion to said vehicle, are greater than any cross-sectional area of said first spike located ahead thereof.

9. (New) The method of claim 6 wherein a plurality of cross-sectional areas of said first spike, from said leading end portion to said vehicle, are greater than any cross-sectional area of said first spike located therebehind.

10. (New) The method of claim 6 wherein at least some of said successive cross-sectional areas of said first spike, from said trailing end portion to said vehicle, are greater than any cross-sectional area of said first spike located therebehind.